

ECM group

June 12, 2006

Peter Van Alyea
50 Professional Center Drive, Suite 100
Rohnert Park, CA 94928

Re: Well Replacement Report
Redwood Oil Company Service Station
1100 Bennett Valley Road
Santa Rosa, CA

Dear Mr. Alyea:

ECM Group (ECM) has prepared this report documenting the replacement of multi-level monitoring well MW-15 at the above-referenced site (Figures 1 and 2, Appendix A). ECM destroyed multi-level monitoring well MW-15 and replaced it with 4 conventional monitoring wells (MW-15A, MW-15B, MW-15C, and MW-15D). The well replacement was necessary because MW-15 was found to be defective.

MW-15 was a multi-level well with screened ports at the following depths:

30 ft - 40 ft bgs
60 ft - 70 ft bgs
83 ft - 93 ft bgs
140 ft - 150 ft bgs

The well casing for MW-15 was composed of multi-channel tubing, which enables the placement of up to seven separate sampling ports in a single well. Details of multi-channel tubing and well construction are included in the July 29, 2005 well installation report.

While preparing the Fourth Quarter, 2005 Monitoring Report, cumulative laboratory analytical data for MW-15 was analyzed. An examination of the data showed that, over four consecutive monitoring events, results for the shallow port (30 ft - 40 ft bgs) are practically identical with results for the deepest port (140 ft - 150 ft bgs). This raised the possibility that there could be cross-communication between the two ports.

P.O. Box 802, Benicia, CA, 94510 << 707-751-0655 >> 707-751-0653 (fax) << ecmgrp@aol.com

On February 16, 2006, field testing was conducted to confirm whether cross-communication between the ports was occurring. It was observed that, when water was pumped from the deep sampling port, water level in the shallow sampling port dropped rapidly. This confirms that cross-communication was occurring between the two ports.

Based on the above observations, it was concluded that all data collected from the shallow sampling port and the deep sampling port of MW-15 was invalid. No cross-communication was observed between the two remaining sampling ports (60 ft - 70 ft bgs and 83 ft - 93 ft bgs). However, the entire well was compromised and all data from the well was considered unreliable.

SCOPE OF WORK

The following outlines the scope of work and procedures used for the well replacement project:

- 1.) Prepare a site-specific safety plan for this investigation.
- 2.) Properly destroy multi-level well MW-15.
- 3.) Install 4 conventional monitoring wells (MW-15A, MW-15B, MW-15C, and MW-15D) at the location shown on Figure 2 (Appendix A).
- 4.) Develop the newly-installed monitoring wells.
- 5.) Survey the top-of-casing elevations of the newly-installed monitoring wells.
- 6.) Sample the new and existing wells in accordance with the existing site monitoring program. Analyze the samples for TPPH(G), TPH(D), BTEX, and oxygenates.
- 7.) Report the results.

WELL DESTRUCTION

Monitoring well MW-15 was properly destroyed by RSI of Woodland, CA between the dates of April 6 and April 10, 2006. The entire well boring was overdrilled and all well construction materials (casing, grout, sand, and bentonite) were removed. To avoid cross-contamination, well destruction was performed with continuously-installed steel casing, using sonic drilling techniques. The resulting borehole was grouted to surface.

WELL REPLACEMENT

Replacement wells MW-15A through MW-15D were installed by RSI of Woodland, CA between the dates of April 11, 2006 and April 22, 2006. Screen intervals for the replacement wells are:

MW-15A	30 ft - 40 ft bgs
MW-15B	60 ft - 70 ft bgs
MW-15C	83 ft - 93 ft bgs
MW-15D	140 ft - 150 ft bgs

Well locations are shown on Figure 2, Appendix A. The wells were installed in accordance with ECM Standard Operating Procedures for Monitoring Well Design and Construction (Appendix B). To avoid cross-contamination, well installation was performed with continuously-installed steel casing, using sonic drilling techniques. A 4.5 inch diameter borehole was drilled. At 20- to 40-foot intervals, a 6.25-inch diameter steel casing was inserted over the 4.5-inch borehole, creating a tight seal between borehole wall and the outside of the steel casing.

Well logs are included in Appendix D. Details on soil formations shown on the well logs are taken from the original MW-15 well log. The original well log is also included in Appendix D.

The replacement monitoring wells were developed on April 26, 2006 and on May 19, 2006.

Field notes for well development are shown in Appendix C.

Monitoring wells were surveyed on May 31, 2006. Top of casing elevations will be tabulated in the next quarterly ground water monitoring report.

The replacement monitoring wells are scheduled for sampling, along with the other site monitoring wells, on June 8, 2006. Analytical results will be included in the next quarterly ground water monitoring report.

Thank you for allowing ECM to provide environmental consulting services to Redwood Oil Company. Please call if you have questions or require additional information

Sincerely,
ECM Group



Jim Green
Project Manager



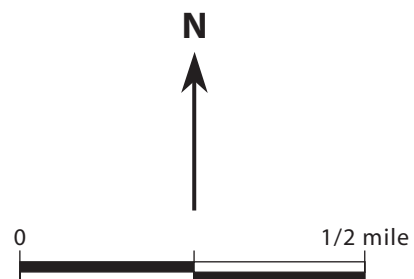
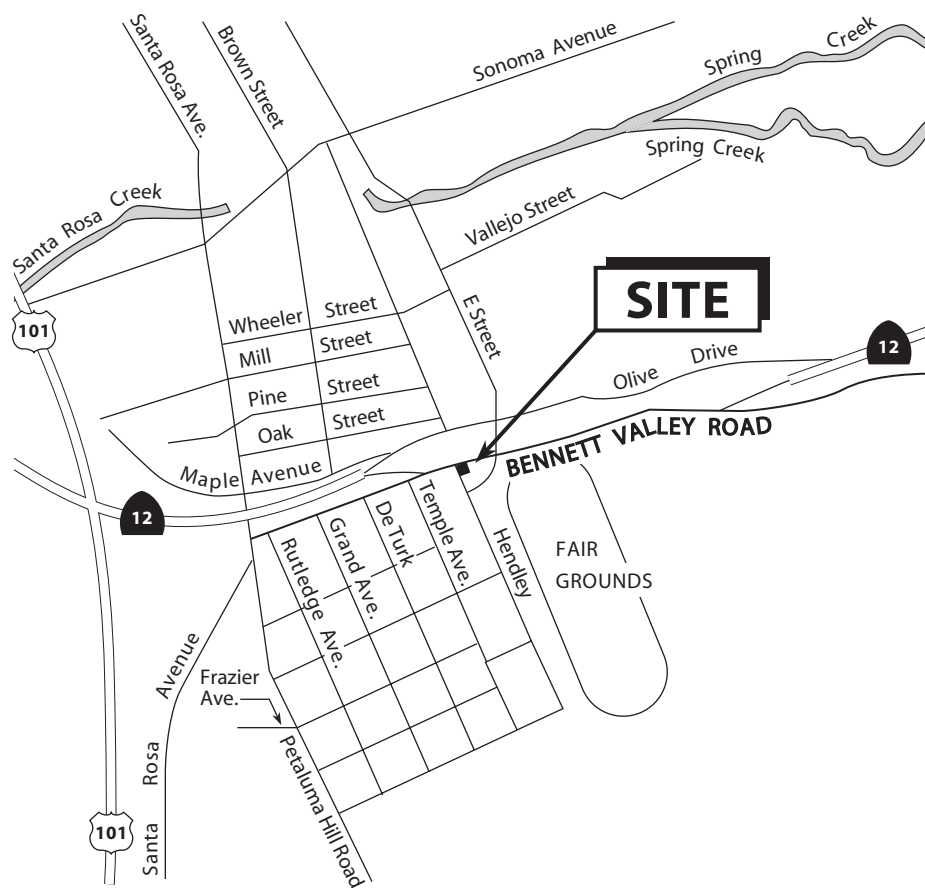
Attachments:

- Appendix A - Figures
- Appendix B - ECM Standard Operating Procedures
- Appendix C - Field Notes
- Appendix D - Well Completion Details, ASTM Soil Classification System Chart, and Boring Logs

cc: Joan Fleck, North Coast Regional Water Quality Control Board

APPENDIX A







FIGURES



Base map ref: Thomas Bros.

Figure 1. Site Location Map – Redwood Oil Service Station, 1100 Bennett Valley Road, Santa Rosa, California

EXPLANATION

-  MW-13 Monitoring well
-  MW-3 Former monitoring well
-  EX-1 Extraction well
-  PZ-3 Piezometer
-  B-14 Soil boring
-  CPT-1 CPT location

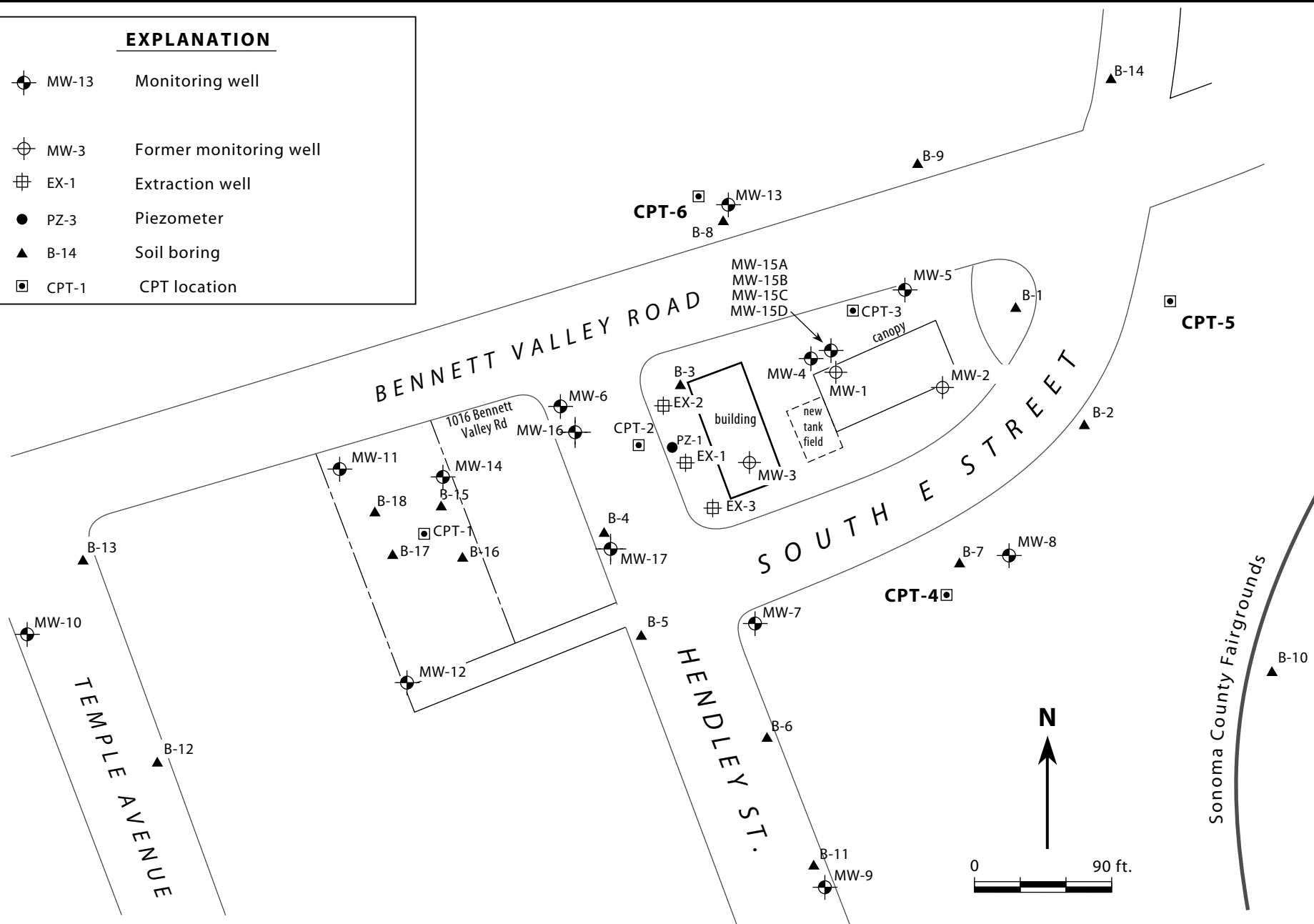


Figure 2. Well Locations - Redwood Oil Service Station #106, 1100 Bennett Valley Road, Santa Rosa, California

APPENDIX B
ECM STANDARD OPERATING PROCEDURES

ECM STANDARD OPERATING PROCEDURE
MONITORING WELL DESIGN AND CONSTRUCTION

Where possible, information from published and unpublished reports is reviewed prior to installation of monitoring wells. Relevant data includes highest and lowest anticipated ground water elevations, aquifer materials, aquifer yield and contaminants expected. This information is used to aid the field geologist rather than to predetermine how the wells will be constructed. Well construction is based on *site specific conditions* and is determined in the field after discussion with the senior geologist.

Monitoring wells are constructed with flush-threaded, 2-inch or 4-inch diameter, slotted PVC, stainless steel or teflon well screen and PVC, stainless steel or teflon blank casing. Number 3 or #212 sand is used in the annular space around the well screen. The sand is placed into the annular space around the well screen to approximately 2 feet above the top of the well screen. If high ground water conditions exist, the sand may be placed 0 to 1 foot above the top of the well screen. Two feet of bentonite pellets are used to separate the sand from the sanitary surface seal (grout). If high ground water conditions exist 1/2 foot of bentonite may be used to separate the sand from the sanitary surface seal.

The grout (Portland cement with approximately 3-5% bentonite powder) is poured into the annular space above the bentonite pellets. If the surface seal is greater than 5 feet thick, grout consisting of cement mixed with 3-5% bentonite powder will be tremied or pumped into the annular space above the bentonite pellets to prevent the infiltration of surface water into the well. If the surface seal is less than 5 feet thick, the grout will be poured from the surface. The resulting seal will be checked for shrinkage within 24 hours and additional grout will be added, if necessary. The surface seal is used to prevent infiltration of surface water into the well.

The monitoring well(s) is locked with a stovepipe or cap and covered with a traffic-rated vault if it is located in a developed area. The well ID is clearly marked on the cap or casing.

ECM STANDARD OPERATING PROCEDURE

WELL DEVELOPMENT

ECM develops ground water monitoring wells not less than 48 hours after the placement of the surface seal (grouting) to allow sufficient time for the cement grout to set. The wells are developed to restore the natural hydraulic conductivity of the formation(s) to be monitored and to remove all sand and as much fine-grained material as possible.

Prior to development, ECM field personnel measure the depth to water and the total depth of the well. The total depth measurement is compared to the well completion diagram shown on the field log and any discrepancies are noted.

Well development consists of several cycles of surging and evacuation of water in the well, each ending with measurements of temperature, pH, conductivity, and observation of turbidity. Surging takes place for several minutes to loosen fines from the screened interval. The vented surge block is placed block several feet below the water surface and pulled upward.

Development shall continue for a period of at least four hours or when ten well volumes have been removed, whichever occurs first, and until ground water removed from the well is clear and visibly free of suspended materials. Note the time and the approximate volume of water removed prior to each determination of the following parameters (and whether well is bailed or pumped dry): pH, temperature, and specific conductivity. These measurements should be made a minimum of five times during well development.

If micro wells (well diameter 3/4" or less) are installed, the well may not be surged. In this case, a minimum of twenty casing volumes will be removed.

If the water is still cloudy after the four hour period but these three parameters have stabilized, then the well will be considered developed regardless of the volume of water purged from the well. Stabilization of pH, temperature, and specific conductivity will be considered to have occurred when these parameters undergo changes not exceeding ± 0.1 , 0.5 degrees F, and 5 percent, respectively.

After development is completed, the depth to water and the total depth of the well are remeasured. The total depth of the well and the total depth noted on the field log should be approximately the same. All data measured during the procedures described herein are recorded on the ECM Well Development Form, which is part of the project file.

The ground water removed from the wells during development remains onsite in 55-gallon Department of Transportation-approved drums. The water is removed by a licensed hauler and taken to an approved disposal facility.

APPENDIX C
FIELD NOTES

WATER LEVEL & PRODUCT MEASUREMENTS

ECM group

PROJECT NAME & NUMBER: 98-571-WP

DATE: 4-25-06

Bennett Valley

BY: Doug West

WELL ID	TIME MEASURED	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH	COMMENTS: (well condition, odor, etc.)
	4-25				$39.18 - 5.68 = 33.5$ <i>Tube removed</i>
MW-15A	2330		5.68	39.18	$33.5 \times .1631 = 5.464 \times 10 = 54.64 \text{ gal}$
	4-26				$63.77 \times .1631 = 10.4$
MW-15B	0200		6.60	70.37	$10.40 \times 10 = 104 \text{ gal}$
	4-25-06				$86.7 \times .1631 = 14.14$
MW-15C	2310		6.95	93.65	$14.14 \times 10 = 141.4 \text{ gal}$
	4-26				$128.5 \times .1631$
MW-15D	0250		20.40	148.9	$20.96 \times 10 = 209.6 \text{ gal}$
15A	208		8.20	39.20	
B			6.70	70.3	
C			7.75	93.90	

WELL DEVELOPMENT/ WATER MONITORING DATA

PROJECT NAME & NUMBER: Bennett Valley 98-511-WP
By: Doug West

Well ID: MW-15A
Date: 4-26-06

Time	Depth to Water (ft)	Depth to Product (ft)	Surged	Bailed	Pumped	Gallons removed	Temp. (F)	pH	EC (umhos)	Comments: (color, odor, product, est flow rate)
Start: 1145	5.68		✓							
Stop: 1158										
Start: 1200				✓		27	64.3	6.92	1761	LT BRN (1230 - still boiling)
Stop: 0112							65.2	6.91	795	
Start: 0113					✓		65.8	6.83	799	
Stop: 0120						18				
Start: 0120			✓	✓						Boiling & surging
Stop: 1:25										
Start: 0128					/		62.8	6.82	811	
Stop:							65.4	6.80	830	0135
Start:							65.6	6.81	2072	0145
Stop: 0155	8.20					35	65.5	6.80	2113	1:55

WELL DEVELOPMENT SUMMARY

Depth to Water Before Development: ✓

Depth to Water After Development: ✓

Sounded Depth Before Development: ✓

Sounded Depth After Development: ✓

Development Method: _____

Total Pumping Time (min): _____

Total Amount Excavated (gals): _____

Average Pumping Rate (gpm): _____

Pumping Rate Range (gpm): _____

Total H2O Injected (gals): _____

WELL DEVELOPMENT/ WATER MONITORING DATA

PROJECT NAME & NUMBER: Bennett Valley 98-511-WP
By: Doug West

Well ID: MW-15B
Date: 4-26-06

Time	Depth to Water (ft)	Depth to Product (ft)	Surged	Bailed	Pumped	Gallons removed	Temp. (F)	pH	EC (umhos)	Comments: (color, odor, product, est flow rate)
Start: 208	6.60		✓							
Stop: 212										
Start: 220					✓					
Stop: 258						40	65.2	7.46	328	
Start: 258			✓	✓			65.3	7.33	362	2W
Stop: 0300										
Start: 0303					✓		65.3	7.33	362	
Stop: 0313						60	64.8	7.31	373	
Start: 0314			✓	✓						
Stop: 0335						7				
Start: 0336					✓		61.8	7.41	349	
Stop: 0350						90	65.5	7.31	365	

WELL DEVELOPMENT SUMMARY

Depth to Water Before Development: _____ Development Method: _____ Average Pumping Rate (gpm): _____
 Depth to Water After Development: _____ Total Pumping Time (min): _____ Pumping Rate Range (gpm): _____
 Sounded Depth Before Development: _____ Total Amount Excavated (gals): _____ Total H2O Injected (gals): _____
 Sounded Depth After Development: _____

WELL DEVELOPMENT/ WATER MONITORING DATA

PROJECT NAME & NUMBER: 98-511-WP Bennett Valley
By: Bennett Valley, 9 Dec 2006

Well ID: MW-15B
Date: 4-26-06

Time	Depth to Water (ft)	Depth to Product (ft)	Surged	Bailed	Pumped		Gallons removed	Temp. (F)	pH	EC (umhos)	Comments: (color, odor, product, est flow rate)
Start: 350			/	/							
Stop: 405							5				
Start: 405					✓			61.9	7.82	346	
Stop: 4:18							40	65.2	7.38	366	4:15
Start:								65.0	7.33	367	4:40
Stop:	6.70						170	65.5	7.29	362	4:45
Start:											Completed development of 15-B
Stop:											
Start:											410 gal taken.
Stop:											
Start:											
Stop:											

WELL DEVELOPMENT SUMMARY

Depth to Water Before Development: _____ Development Method: _____ Average Pumping Rate (gpm): _____
 Depth to Water After Development: _____ Total Pumping Time (min): _____ Pumping Rate Range (gpm): _____
 Sounded Depth Before Development: _____ Total Amount Excavated (gals): _____ Total H2O Injected (gals): _____
 Sounded Depth After Development: _____

WELL DEVELOPMENT/ WATER MONITORING DATA

PROJECT NAME & NUMBER: Bennett Valley 98-571-06
By: Doug West

Well ID: MW-15C
Date: 4-26-06

Time	Depth to Water (ft)	Depth to Product (ft)	Surged	Bailed	Pumped	Gallons removed	Temp. (F)	pH	EC (umhos)	Comments: (color, odor, product, est flow rate)
Start: 1125	6.95		✓							
Stop: 1135										
Start: 1135				✓		1.0				A little sandy sediment.
Stop: 1140										
Start: 0008					✓		64.6	7.81	611	AMBER
Stop: 0020						30	67.4	7.57	582	LT AMBER
Start: 0020			✓							
Stop: 0035										
Start: 0038					✓		65.5	8.76	195	
Stop: 0050						30	67.3	7.51	210	
Start: 0050			✓							
Stop: 0100										

WELL DEVELOPMENT SUMMARY

Depth to Water Before Development: 6.95 Development Method: _____ Average Pumping Rate (gpm): _____
 Depth to Water After Development: 7.75 Total Pumping Time (min): 61 Pumping Rate Range (gpm): 3 gpm
 Sounded Depth Before Development: _____ Total Amount Excavated (gals): 206 Total H2O Injected (gals): _____
 Sounded Depth After Development: _____

WELL DEVELOPMENT/ WATER MONITORING DATA

PROJECT NAME & NUMBER: 98-511-WP
By: Bennett Valley

Well ID: 15C
Date: 4-26-06

Time	Depth to Water (ft)	Depth to Product (ft)	Surged	Bailed	Pumped	Gallons removed	Temp. (F)	pH	EC (umhos)	Comments: (color, odor, product, est flow rate)
Start:				✓						
Stop:										
Start: 1:10	1:10				✓		66.3	7.50	210	
Stop: 1:23	1:23					30	66.1	7.53	208	
Start: 1:25	1:25		✓							
Stop: 1:30	1:30									
Start: 1:35	1:35				✓		66.7	7.61	208	
Stop: 1:50	1:50					55	67.0	7.53	560	
Start: 2:00			✓							
Stop: 2:05										
Start: 02:06					✓		66.6	7.50	205	
Stop: 02:15	DID NOT STOP					85	67.2	7.47	205	(2.15)

WELL DEVELOPMENT SUMMARY

Depth to Water Before Development: _____ Development Method: _____ Average Pumping Rate (gpm): _____
 Depth to Water After Development: _____ Total Pumping Time (min): _____ Pumping Rate Range (gpm): _____
 Sounded Depth Before Development: _____ Total Amount Excavated (gals): _____ Total H2O Injected (gals): _____
 Sounded Depth After Development: _____

WELL DEVELOPMENT/ WATER MONITORING DATA

PROJECT NAME & NUMBER: Bennett Valley 98-511-WP

Well ID: MD-15C

By: _____

Date: 4-26-06

Time	Depth to Water (ft)	Depth to Product (ft)	Surged	Bailed	Pumped		Gallons removed	Temp. (F)	pH	EC (umhos)	Comments: (color, odor, product, est flow rate)
Start:								67.0	7.51	205	2:18
Stop:								67.5	7.41	205	2:23
Start: Stopped Start: 2:40	2:40						60	67.2	7.46	202	2:40
Stop:											
Start:											206 total gal. removed.
Stop:											
Start:	7.75										Completed at 2:40 am. 4-26-06
Stop:											
Start:											
Stop:											
Start:											
Stop:											

WELL DEVELOPMENT SUMMARY

Depth to Water Before Development: _____ Development Method: _____ Average Pumping Rate (gpm): _____

Depth to Water After Development: _____ Total Pumping Time (min): _____ Pumping Rate Range (gpm): _____

Sounded Depth Before Development: _____ Total Amount Excavated (gals): _____ Total H2O Injected (gals): _____

Sounded Depth After Development: _____

30

190773
868

WELL DEVELOPMENT/ WATER MONITORING DATA

PROJECT NAME & NUMBER: Bennett Valley 98-511-WP
By: Doug West

Well ID: MW-15D
Date: 4-26-06

Time	Depth to Water (ft)	Depth to Product (ft)	Surged	Bailed	Pumped		Gallons removed	Temp. (F)	pH	EC (umhos)	Comments: (color, odor, product, est flow rate)
Start: 0300	20.40		✓								
Stop: 0310											
Start: 0310				✓							
Stop: 0322						2					
Start: 0330					✓			65.0	7.92	226	
Stop: 0336								65.0	11.23	179	0350
Start: 0336								66.4	11.62	244	
Stop: 0340			✗			21					pumped dry. 11
Start: 0350					✓			66.2	8.58	233	4:12
Stop: 4:45						10		66.1	7.64	235	4:50 pumped dry
Start: 5:18						5		65.8	7.17	224	5:20 pumped dry
Stop: 5:44-5:45						3		64.6	7.56	224	5:45 - pumped dry.

WELL DEVELOPMENT SUMMARY

Depth to Water Before Development: 20.40
Depth to Water After Development: (150) NOT complete
Sounded Depth Before Development: _____
Sounded Depth After Development: _____

Development Method: _____
Total Pumping Time (min): 18 min
Total Amount Excavated (gals): 41

Average Pumping Rate (gpm): 2.5 gpm
Pumping Rate Range (gpm): _____
Total H2O Injected (gals): _____

1781

WELL DEVELOPMENT/ WATER MONITORING DATA

PROJECT NAME & NUMBER: 98-511-WR (98-511-21) Bennett Valley Well ID: MW-15-D
By: Doug West Date: 5-19-06

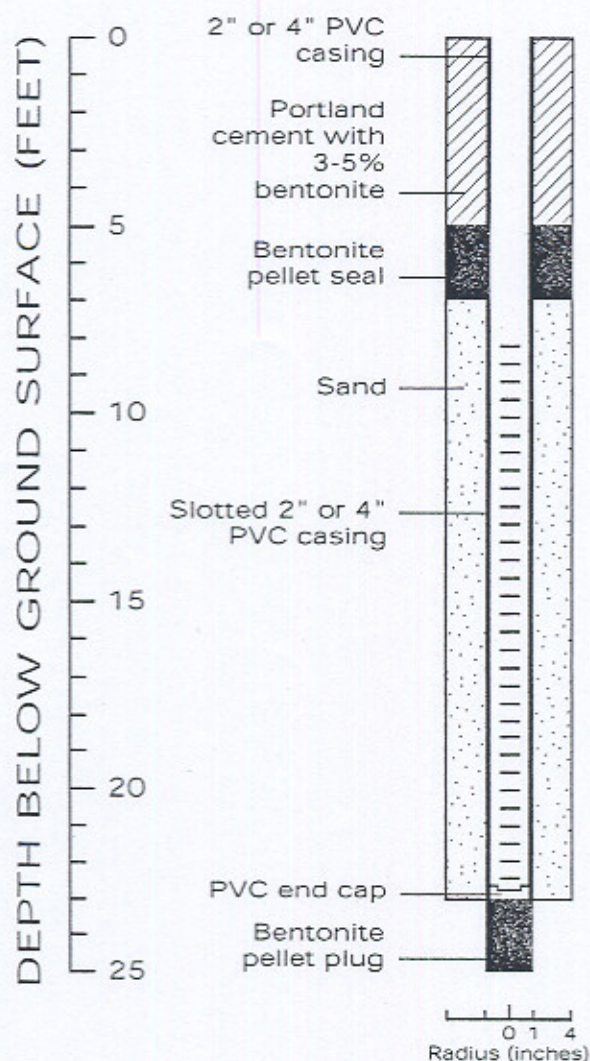
Time	Depth to Water (ft)	Depth to Product (ft)	Surged	Bailed	Pumped	Gallons removed	Temp. (F)	pH	EC (umhos)	Comments: (color, odor, product, est flow rate)
Start: <u>1:40 am</u>	<u>35.60'</u>		✓							
Stop: <u>2:00 am</u>										
Start: <u>2:10 am</u>					✓	<u>228</u>				<u>light brown, opaque, no odor, pump rate ~ 0.196 gpm</u>
Stop: <u>3:30</u>										<u>Base on pump rate,</u>
Start: <u>3:30</u>										<u>Pumped approximately 15.68 gal. Not a lot</u>
Stop: <u>3:30</u>										<u>of confidence in this pump rate due to constant</u>
Start: <u>3:30</u>										<u>fluctuation in pump during 80 min. of pump time</u>
Stop: <u>4:15</u>										<u>Poly tank reads ~ 28 gallons.</u>
Start: <u>4:15</u>	<u>96.00'</u>				✓	<u>7</u>				<u>Recharge period. D</u>
Stop: <u>4:30</u>										<u>pumped out ~ 7 gallons.</u>
Start:										<u>Total amount of gallons pumped (read</u>
Stop:										<u>on side of poly tank) ~ 35 gallons.</u>

WELL DEVELOPMENT SUMMARY

Depth to Water Before Development: 35.60' Development Method: _____ Average Pumping Rate (gpm): _____
Depth to Water After Development: 139.00' Total Pumping Time (min): 95 minutes Pumping Rate Range (gpm): _____
Sounded Depth Before Development: _____ Total Amount Excavated (gals): 35 gals Total H2O Injected (gals): _____
Sounded Depth After Development: _____

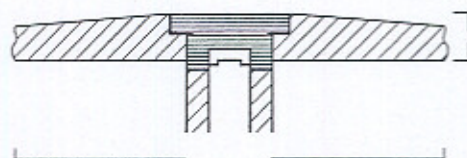
APPENDIX D
WELL COMPLETION DETAILS
ASTM SOIL CLASSIFICATION SYSTEM CHART
BORING LOGS

EXPLANATION TYPICAL WELL CONSTRUCTION

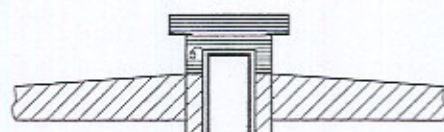


Well Head Completion Schematic Not to scale

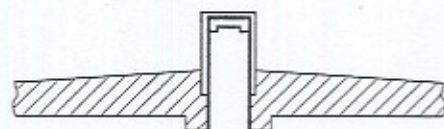
☐ Locking cap
&
Christy Box



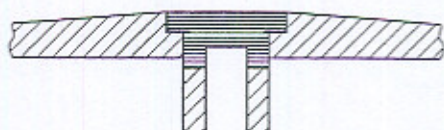
☐ Locking
stovepipe &
Christy Box



☐ Locking cap
& stovepipe



☐ Christy Box



Water level depth and date:

▽ Initial water level

▼ Static water level

NOTE: ECM attempts to screen from 5 feet above static water to 10 feet below static water.

					Group Symbol	Group Name		
>50% Sand & Gravel	GRAVEL % gravel > % sand	≤5% fines	Well-graded		GW	<15% sand	Well-graded GRAVEL	
						>15% sand	Well-graded GRAVEL with Sand	
			Poorly graded		GP	<15% sand	Poorly graded GRAVEL	
						>15% sand	Poorly graded GRAVEL with Sand	
		10% fines	Well-graded	fines=ML or MH	GW-GM	<15% sand	Well-graded GRAVEL with Silt	
						>15% sand	Well-graded GRAVEL with Silt and Sand	
				fines=CL or CH	GW-GC	<15% sand	Well-graded GRAVEL with Clay	
						>15% sand	Well-graded GRAVEL with Clay and Sand	
			Poorly graded	fines=ML or MH	GP-GM	<15% sand	Poorly graded GRAVEL with Silt	
						>15% sand	Poorly graded GRAVEL with Silt and Sand	
				fines=CL or CH	GP-GC	<15% sand	Poorly graded GRAVEL with Clay	
						>15% sand	Poorly graded GRAVEL with Clay and Sand	
	≥15% fines		fines=ML or MH	GM	<15% sand	Silty GRAVEL		
					>15% sand	Silty GRAVEL with Sand		
			fines=CL or CH	GC	<15% sand	Clayey GRAVEL		
					>15% sand	Clayey GRAVEL with Sand		
		SAND % sand > % gravel	≤5% fines	Well-graded		SW	<15% gravel	Well-graded SAND
							>15% gravel	Well-graded SAND with Gravel
	Poorly graded				SP	<15% gravel	Poorly graded SAND	
						>15% gravel	Poorly graded SAND with Gravel	
	10% fines		Well-graded	fines=ML or MH	SW-SM	<15% gravel	Well-graded SAND with Silt	
						>15% gravel	Well-graded SAND with Silt and Gravel	
				fines=CL or CH	SW-SC	<15% gravel	Well-graded SAND with Clay	
						>15% gravel	Well-graded SAND with Clay and Gravel	
			Poorly graded	fines=ML or MH	SP-SM	<15% gravel	Poorly graded SAND with Silt	
						>15% gravel	Poorly graded SAND with Silt and Gravel	
				fines=CL or CH	SP-SC	<15% gravel	Poorly graded SAND with Clay	
						>15% gravel	Poorly graded SAND with Clay and Gravel	
	≥15% fines		fines=ML or MH	SM	<15% gravel	Silty SAND		
					>15% gravel	Silty SAND with Gravel		
			fines=CL or CH	SC	<15% gravel	Clayey SAND		
					>15% gravel	Clayey SAND with Gravel		

50% or More Fines	Low-Plasticity Clay	CL	<30% sand & gravel	<15% Sand and Gravel		Lean CLAY
				15-25% sand & gravel	% sand > % gravel	Lean CLAY with Sand
					% sand < % gravel	Lean CLAY with Gravel
			≥30% sand & gravel	% sand ≥ % of gravel	<15% gravel	Sandy lean CLAY
					>15% gravel	Sandy lean CLAY with Gravel
				% sand < % gravel	<15% sand	Gravelly lean CLAY
					>15% sand	Gravelly lean CLAY with Sand
	Low-Permeability Silt	ML	<30% sand & gravel	>15% sand & gravel		SILT
				15-25% sand & gravel	% sand > % gravel	SILT with Sand
					% sand < % gravel	SILT with Gravel
			≥30% sand & gravel	% sand ≥ % of gravel	<15% gravel	Sandy SILT
					>15% gravel	Sandy SILT with Gravel
				% sand < % gravel	<15% sand	Gravelly SILT
					>15% sand	Gravelly SILT with Sand
	Plastic Clay	CH	<30% sand & gravel	<15% sand & gravel		Fat CLAY
				15-25% sand & gravel	% sand > % gravel	Fat CLAY with Sand
					% sand < % gravel	Fat CLAY with Gravel
			≥30% sand & gravel	% sand ≥ % of gravel	<15% gravel	Sandy fat CLAY
					>15% gravel	Sandy fat CLAY with Gravel
				% sand < % gravel	<15% sand	Gravelly fat CLAY
					>15% sand	Gravelly fat CLAY with Sand
	Plastic Silt	MH	<30% sand & gravel	<15% sand & gravel		Elastic SILT
				15-25% sand & gravel	% sand > % gravel	Elastic SILT with Sand
					% sand < % gravel	Elastic SILT with Gravel
			≥30% sand & gravel	% sand ≥ % of gravel	<15% gravel	Sandy elastic SILT
					>15% gravel	Sandy elastic SILT with Gravel
				% sand < % gravel	<15% sand	Gravelly elastic SILT
					>15% sand	Gravelly elastic SILT with Sand
	Organics (Peat or Bay Mud)	OL/OH	<30% sand & gravel	<15% sand & gravel		Organic SOIL
				15-25% sand & gravel	% sand > % gravel	Organic SOIL with Sand
					% sand < % gravel	Organic SOIL with Gravel
			≥30% sand & gravel	% sand ≥ % of gravel	<15% gravel	Sandy Organic SOIL
					>15% gravel	Sandy Organic SOIL with Gravel
				% sand < % gravel	<15% sand	Gravelly Organic SOIL
					>15% sand	Gravelly Organic SOIL with Sand

Project No.: 98-511-21
Well / Boring No.: MW-15

Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
0			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓		Concrete pad, approximately 8"
1							
2						GW	Sandy GRAVEL with Silt: damp; very compact; 10% silt, 20% fine-coarse sand, 70% sub-rounded gravel; moderate-high estimated permeability; no odor
3							
4							
5							
6							
7							
8							Saturated below 8 feet
9							
10							
11							
12							
13						CL	Lean CLAY: gray/brown; 90% clay, 10% very fine sand; low estimated permeability; no odor
14							
15							
16							
17							
18							
19							
20							

Logged by: D. Hazard
 Drilling company: RSI
 Drill date: 3/22/05
 Installation method: sonic
 Sampler type: 4" continuous
 Auger size: 6"
 Casing: 2"

Project No.: 98-511-21 Well / Boring No.: MW-15									
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description		
20			CONTINUOUS	SOLID	GROUT	GC	Clayey GRAVEL: Brown/gray; wet; 10% clay, 90% gravel; moderate estimated permeability		
21									
22									
23									
24									
25						BENTONITE			
26									
27									
28									
29									
30			SCREENED	SAND	GW-GM		Well-graded SAND with Gravel: gray/brown; wet; 80% medium-coarse sand, 20% gravel; high estimated permeability		
31									
32						SP		Grades to: Poorly-graded SAND with Gravel: 50% coarse sand, 50% gravel; moderate-high estimated permeability	
33									
34									
35									
36									
37						SW		Grades to: Well-graded SAND: green/gray; 5% silt, 90% fine-coarse sand, 5% gravel; moderate-high estimated permeability	
38									
39									
40									

Project No.: 98-511-21 Well / Boring No.: MW-15							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
40			CONTINUOUS	SOLID	SAND	SC	Clayey SAND with gravel: gray/brown; 10% clay, 70% sand, 20% gravel; moderate estimated permeability
41							
42							
43						ML	SILT: brown; 90% silt, 10% sand; very low estimated permeability
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60					SAND		Clayey SAND: brown; 10% clay, 80% sand; moderate estimated permeability

Project No.: 98-511-21 Well / Boring No.: MW-15							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
60			CONTINUOUS	SCREENED	SAND	SC	Clayey SAND: 10% clay, 90% fine-coarse sand; moderate estimated permeability
61							
62							
63							
64							
65							
66							
67							
68							
69							
70			SOLID	BENTONITE	ML	Sandy SILT: dark gray; 75% silt, 25% sand; semi-consolidated; low estimated permeability	
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							

Project No.: 98-511-21 Well / Boring No.: MW-15							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
80			CONTINUOUS	SOLID	BENT/ ONITE		
81							
82							
83							
84			SCREENED		SAND	SM/ML	Grades to: Sandy SILT/Silty SAND: 50% very fine sand, 50% silt
85							
86							
87							
88			GC				Well-graded GRAVEL with Sand: gray/brown; 5% clay, 25% fine-coarse sand, 70% gravel; high estimated permeability
89							
90							
91							
92			NONE				No recovery: consolidated materials; moderate estimated permeability estimated from cuttings
93							
94							
95							
96			SOLID		BENTONITE		
97							
98							
99							
100							

Project No.: 98-511-21
Well / Boring No.: MW-15

Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
100			<div> <div></div> <div>NONE</div> <div></div> </div>	<div> <div></div> <div>SOLID</div> <div></div> </div>	<div> <div></div> <div>BENTONITE</div> <div></div> </div>		No recovery
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							

Project No.: 98-511-21 Well / Boring No.: MW-15							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
120			CONTINUOUS	SOLID	BENTONITE	ML	Sandy SILT with Gravel: gray/brown; 60% silt, 30% fine-medium sand, 10% well-graded/sub-rounded gravel; low estimated permeability, no odor
121							
122							
123							
124							
125							
126							
127							
128							
129							
130			CONTINUOUS	SOLID	BENTONITE	ML	Grades to: Sandy SILT with Gravel: gray/brown; 70% silt, 20% sand, 10% well-graded/sub-rounded gravel; low estimated permeability, no odor
131							
132							
133							
134							
135							
136							
137							
138						SM	
139							
140					SAND		Silty SAND: 30% silt, 70% sand; moderate estimated permeability; no odor

Project No.: 98-511-21 Well / Boring No.: MW-15							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
140			↑ CONTINUOUS ↓	↑ SCREENED ↓	↑ SAND ↓	SM	Silty SAND: brown/gray; 30% silt, 70% very fine-fine sand; moderate estimated permeability; no odor
141							
142							
143							
144							
145							
146							
147							
148							
149							
150							BOH at 150 feet
151							
152							
153							
154							
155							
156							
157							
158							
159							
160							

Project No.: 98-511-WR Well / Boring No.: MW-15A								
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description	
0			<div>↑</div> <div>CONTINUOUS</div> <div>↓</div>	<div>↑</div> <div>SOLID</div> <div>↓</div>	<div>↑</div> <div>GROUT</div> <div>↓</div>		Concrete pad, approximately 8"	
1								
2								GW
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13					CL	Lean CLAY: gray/brown; 90% clay, 10% very fine sand; low estimated permeability; no odor		
14								
15								
16								
17								
18					BENTONITE			
19								
20								

Logged by: D. Hazard
 Drilling company: RSI
 Drill date: 4/22/06
 Installation method: sonic
 Sampler type: 4" continuous
 Auger size: 6"
 Casing: 2"

Project No.: 98-511-WR Well / Boring No.: MW-15A							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
20			CONTINUOUS	SOLID	BENTONITE	GC	Clayey GRAVEL: Brown/gray; wet; 10% clay, 90% gravel; moderate estimated permeability
21							
22							
23							
24							
25							
26							
27							
28						GW-GM	Well-graded SAND with Gravel: gray/brown; wet; 80% medium-coarse sand, 20% gravel; high estimated permeability
29							
30			SCREEN	SAND			Grades to: Poorly-graded SAND with Gravel: 50% coarse sand, 50% gravel; moderate-high estimated permeability
31							
32						SP	Grades to: Well-graded SAND: green/gray; 5% silt, 90% fine-coarse sand, 5% gravel; moderate-high estimated permeability
33							
34							
35							
36						SW	
37							
38							
39							
40							BOH

Project No.: 98-511-WR Well / Boring No.: MW-15B								
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description	
0			<div>↑</div> <div>CONTINUOUS</div> <div>↓</div>	<div>↑</div> <div>SOLID</div> <div>↓</div>	<div>↑</div> <div>GROUT</div> <div>↓</div>		Concrete pad, approximately 8"	
1								
2								GW
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13					CL	Lean CLAY: gray/brown; 90% clay, 10% very fine sand; low estimated permeability; no odor		
14								
15								
16								
17								
18								
19								
20								

Saturated below 8 feet

Logged by: D. Hazard
 Drilling company: RSI
 Drill date: 4/20/06
 Installation method: sonic
 Sampler type: 4" continuous
 Auger size: 6"
 Casing: 2"

Project No.: 98-511-WR Well / Boring No.: MW-15B							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
20			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	GC	Clayey GRAVEL: Brown/gray; wet; 10% clay, 90% gravel; moderate estimated permeability
21							
22							
23							
24							
25							
26							
27							
28							
29							
30			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	GW-GM	Well-graded SAND with Gravel: gray/brown; wet; 80% medium-coarse sand, 20% gravel; high estimated permeability
31							
32							
33							
34							
35							
36							
37							
38							
39							
40			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SP	Grades to: _____ Poorly-graded SAND with Gravel: 50% coarse sand, 50% gravel; moderate-high estimated permeability
31							
32							
33							
34							
35							
36							
37							
38							
39							
40			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SW	Grades to: _____ Well-graded SAND: green/gray; 5% silt, 90% fine-coarse sand, 5% gravel; moderate-high estimated permeability
31							
32							
33							
34							
35							
36							
37							
38							
39							

Project No.: 98-511-WR Well / Boring No.: MW-15B							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
40			CONTINUOUS	SOLID	GROUT	SC	Clayey SAND with gravel: gray/brown; 10% clay, 70% sand, 20% gravel; moderate estimated permeability
41							
42							
43					BENTONITE	ML	SILT: brown; 90% silt, 10% sand; very low estimated permeability
44							
45							
46							
47							
48							
49							
50					SAND	ML	Grades to: SILT with Sand: brown/gray; 80% silt, 10% very fine sand, 10% gravel; low estimated permeability
51							
52							
53							
54							
55							
56							
57						SC	Clayey SAND: brown; 10% clay, 80% sand; moderate estimated permeability
58							
59							
60							

Project No.: 98-511-WR
Well / Boring No.: MW-15B

Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
60			CONTINUOUS	SCREEN	SAND	SC	Clayey SAND: 10% clay, 90% fine-coarse sand; moderate estimated permeability
61							
62							
63							
64							
65							
66							
67							
68						SC	Grades to: Clayey SAND with Gravel: dark brown; 15% clay, 70% sand, 15% gravel; semi-consolidated; low-moderate estimated permeability
69							BOH
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							

Project No.: 98-511-WR Well / Boring No.: MW-15C								
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description	
0			<div>↑</div> <div>CONTINUOUS</div> <div>↓</div>	<div>↑</div> <div>SOLID</div> <div>↓</div>	<div>↑</div> <div>GROUT</div> <div>↓</div>		Concrete pad, approximately 8"	
1								
2								GW
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13					CL	Lean CLAY: gray/brown; 90% clay, 10% very fine sand; low estimated permeability; no odor		
14								
15								
16								
17								
18								
19								
20								

Saturated below 8 feet

Logged by: D. Hazard
 Drilling company: RSI
 Drill date: 4/18/06
 Installation method: sonic
 Sampler type: 4" continuous
 Auger size: 6"
 Casing: 2"

Project No.: 98-511-WR Well / Boring No.: MW-15C							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
20			CONTINUOUS	SOLID	GROUT	GC	Clayey GRAVEL: Brown/gray; wet; 10% clay, 90% gravel; moderate estimated permeability
21							
22							
23							
24							
25							
26							
27							
28							
29							
30			CONTINUOUS	SOLID	GROUT	GW-GM	Well-graded SAND with Gravel: gray/brown; wet; 80% medium-coarse sand, 20% gravel; high estimated permeability
31							
32							
33							
34							
35							
36							
37							
38							
39							
40			CONTINUOUS	SOLID	GROUT	SP	Grades to: Poorly-graded SAND with Gravel: 50% coarse sand, 50% gravel; moderate-high estimated permeability
41							
42							
43							
44							
45							
46							
47							
48							
49							
			CONTINUOUS	SOLID	GROUT	SW	Grades to: Well-graded SAND: green/gray; 5% silt, 90% fine-coarse sand, 5% gravel; moderate-high estimated permeability

Project No.: 98-511-WR Well / Boring No.: MW-15C							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
40			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SC	Clayey SAND with gravel: gray/brown; 10% clay, 70% sand, 20% gravel; moderate estimated permeability
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							
51							
52			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	ML	SILT: brown; 90% silt, 10% sand; very low estimated permeability
53							
54							
55							
56							
57							
58							
59							
60							
			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	ML	Grades to: SILT with Sand: brown/gray; 80% silt, 10% very fine sand, 10% gravel; low estimated permeability
			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SC	Clayey SAND: brown; 10% clay, 80% sand; moderate estimated permeability

Project No.: 98-511-WR Well / Boring No.: MW-15C							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
60			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SC	Clayey SAND: 10% clay, 90% fine-coarse sand; moderate estimated permeability
61							
62							
63							
64							
65							
66							
67							
68							
69							
70						ML	Sandy SILT: dark gray; 75% silt, 25% sand; semi-consolidated; low estimated permeability
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							

Project No.: 98-511-WR Well / Boring No.: MW-15C									
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description		
80			↑ CONTINUOUS ↓	↑ SOLID ↓	BENTONITE		Grades to: Sandy SILT/Silty SAND: 50% very fine sand, 50% silt		
81									
82									
83								SM/ML	
84									
85			↑ SCREEN ↓	↑ SAND ↓		GC	Well-graded GRAVEL with Sand: gray/brown; 5% clay, 25% fine-coarse sand, 70% gravel; high estimated permeability		
86									
87									
88									
89									
90			↑ NONE ↓	↑ SCREEN ↓	↑ SAND ↓		No recovery: consolidated materials; moderate estimated permeability estimated from cuttings		
91									
92									
93									
94									
95							BOH		
96									
97									
98									
99									
100									

Project No.: 98-511-WR Well / Boring No.: MW-15D								
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description	
0			<div>↑</div> <div>CONTINUOUS</div> <div>↓</div>	<div>↑</div> <div>SOLID</div> <div>↓</div>	<div>↑</div> <div>GROUT</div> <div>↓</div>		Concrete pad, approximately 8"	
1								
2								GW
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13					CL	Lean CLAY: gray/brown; 90% clay, 10% very fine sand; low estimated permeability; no odor		
14								
15								
16								
17								
18								
19								
20								

Saturated below 8 feet

Logged by: D. Hazard
 Drilling company: RSI
 Drill date: 4/11/06
 Installation method: sonic
 Sampler type: 4" continuous
 Auger size: 6"
 Casing: 2"

Project No.: 98-511-WR Well / Boring No.: MW-15D							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
20			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	GC	Clayey GRAVEL: Brown/gray; wet; 10% clay, 90% gravel; moderate estimated permeability
21							
22							
23							
24							
25							
26							
27							
28							
29							
30			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	GW-GM	Well-graded SAND with Gravel: gray/brown; wet; 80% medium-coarse sand, 20% gravel; high estimated permeability
31							
32							
33							
34							
35							
36							
37							
38							
39							
40			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SP	Grades to: _____ Poorly-graded SAND with Gravel: 50% coarse sand, 50% gravel; moderate-high estimated permeability
21							
22							
23							
24							
25							
26							
27							
28							
29							
30			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SW	Grades to: _____ Well-graded SAND: green/gray; 5% silt, 90% fine-coarse sand, 5% gravel; moderate-high estimated permeability
31							
32							
33							
34							
35							
36							
37							
38							
39							

Project No.: 98-511-WR Well / Boring No.: MW-15D									
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description		
40			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SC	Clayey SAND with gravel: gray/brown; 10% clay, 70% sand, 20% gravel; moderate estimated permeability		
41									
42									
43								ML	SILT: brown; 90% silt, 10% sand; very low estimated permeability
44									
45									
46									
47									
48									
49									
50								ML	
51									Grades to: SILT with Sand: brown/gray; 80% silt, 10% very fine sand, 10% gravel; low estimated permeability
52									
53									
54									
55									
56									
57					SC	Clayey SAND: brown; 10% clay, 80% sand; moderate estimated permeability			
58									
59									
60									

Project No.: 98-511-WR Well / Boring No.: MW-15D										
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description			
60			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	SC	Clayey SAND: 10% clay, 90% fine-coarse sand; moderate estimated permeability			
61										
62										
63										
64										
65										
66										
67										Grades to: Clayey SAND with Gravel: dark brown; 15% clay, 70% sand, 15% gravel; semi-consolidated; low-moderate estimated permeability
68								SC		
69										Sandy SILT: dark gray; 75% silt, 25% sand; semi-consolidated; low estimated permeability
70					ML					
71										
72										
73										
74										
75										
76										
77										
78										
79										
80										

Project No.: 98-511-WR Well / Boring No.: MW-15D							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
80			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓		Grades to: _____ Sandy SILT/Silty SAND: 50% very fine sand, 50% silt
81							
82							
83						SM/ML	
84							
85			↑ CONTINUOUS ↓	↑ SOLID ↓	↑ GROUT ↓	GC	Well-graded GRAVEL with Sand: gray/brown; 5% clay, 25% fine-coarse sand, 70% gravel; high estimated permeability
86							
87							
88							
89							
90			↑ NONE ↓	↑ SOLID ↓	↑ GROUT ↓		No recovery: consolidated materials; moderate estimated permeability estimated from cuttings
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							

Project No.: 98-511-WR Well / Boring No.: MW-15D							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
100			<div> <div></div> <div>NONE</div> <div></div> </div>	<div> <div></div> <div>SOLID</div> <div></div> </div>	<div> <div></div> <div>GROUT</div> <div></div> </div>		No recovery
101							
102							
103							
104							
105							
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118							
119							
120							

Project No.: 98-511-WR Well / Boring No.: MW-15D									
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description		
120			CONTINUOUS	SOLID	GROUT	ML	Sandy SILT with Gravel: gray/brown; 60% silt, 30% fine-medium sand, 10% well-graded/sub-rounded gravel; low estimated permeability, no odor		
121									
122									
123									
124									
125									
126									
127					BENTONITE				
128									
129									
130			CONTINUOUS	SOLID	GROUT	ML	Grades to: Sandy SILT with Gravel: gray/brown; 70% silt, 20% sand, 10% well-graded/sub-rounded gravel; low estimated permeability, no odor		
131									
132									
133									
134									
135									
136									
137									
138						SAND		SM	Silty SAND: 30% silt, 70% sand; moderate estimated permeability; no odor
139									
140				SCREEN					

Project No.: 98-511-WR Well / Boring No.: MW-15D							
Depth (feet)	OVM data (ppm)	Sample interval	Recovery	Casing type	Annular material	ASTM symbol	Description
140			<div> <div></div> <div>CONTINUOUS</div> <div></div> </div>	<div> <div></div> <div>SCREEN</div> <div></div> </div>	<div> <div></div> <div>SAND</div> <div></div> </div>	SM	Silty SAND: brown/gray; 30% silt, 70% very fine-fine sand; moderate estimated permeability; no odor BOH at 149 feet
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142							
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